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(54) DIELECTRIC CERAMIC MATERIAL AND MULTILAYERED CERAMIC PARTS

(57)Abstract:

PURPOSE: To provide a dielectric ceramic material practically sufficient in the microwave dielectric characteristics such as dielectric constant, a dielectric loss a resonance frequency temperature coefficient and capable of lowering firing temperature and also provide multilayer ceramic parts having excellent characteristics such as high Q-value as a resonator.

CONSTITUTION: A dielectric ceramic material has such constituents that when the main component is expressed by a composition formula $x\text{BaO} \cdot y\text{TiO}_2 \cdot z\text{Nd}_2\text{O}_3$, there is a relation $7 \leq x \leq 25$, $55 \leq y \leq 78$ and $10 \leq z \leq 25$ where $x+y+z=100\text{mol}\%$, and Bi_2O_3 0 to 15wt.%, MnO 0.5 to 1.5wt.%, glass 4 to 25wt.% are added to the main component. Further, in the case a dielectric ceramic material and an inner conductor material are simultaneously fired so as to obtain a multilayer ceramic part, firing is performed desirably at higher temperature than a melting point of the inner conductor material and under the condition of oxygen partial pressure not exceeding $5 \times 10^{-2}\text{atm}$.

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